

Applicant : Jing-Yang Wu et al.
Serial No. : 10/634,170
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Attorney's Docket No.: 08415-005001 / 0470-0323US

REMARKS

Applicants have amended the specification and claims 4 and 14 to correct errors made when translating into English Chinese Patent Application No. 91135206, from which the instant application claims priority. Applicants have also amended claim 1 and added new claims 16-21 to more particularly point out and distinctly claim the subject matter which they regard as their invention. Support for the amendment to claim 1 and new claims 16 and 17 can be found in the specification, page 4, lines 7-14 and page 5, line 11-13. Support for new claims 18-21 can be found in the specification, page 4, lines 18-30. Claim 15 has been cancelled.

Upon entry of the above amendments, claims 1-14 and 16-21 will be pending and under examination. Reconsideration of this application, as amended, is respectfully requested in view of the following remarks.

Rejection under 35 U.S.C. § 112, first paragraph

The Examiner rejects claim 15 for indefiniteness. Applicants have cancelled claim 15 for the sole purpose of obviating this rejection.

Rejection under 35 U.S.C. § 102

Claims 1-5, 7, 14, and 15 are rejected as being anticipated by Rockland et al. U.S. Patent No. 4,124,727 (Rockland). Claim 15 has been cancelled. Independent claim 1 will be discussed first.

Amended claim 1 covers a reconstituted grain product prepared by a method not disclosed in Rockland. Applicants submit that claim 1, thus amended, is not anticipated by this reference.

Claims 2-5, 7, and 14, all dependent from claim 1, are also believed not to be anticipated by Rockland for the same reason set forth above.

Rejection under 35 U.S.C. § 103

The Examiner rejects claims 6 and 8-13 on several grounds: (1) claims 6, 8, and 9 are rejected as being obvious over Rockland in view of Igoe, *Dictionary of food Ingredients* (Igoe); (2) claim 10 is rejected as being obvious over Rockland in view of Oplinger et al., *Alternative Field Crops Manual* (Oplinger); (3) claim 11 is rejected as being obvious over Rockland in view of Duke, *Coix lacryma-jobi L.* (Duke); and (4) claim 12 and 13 are rejected as being obvious over Rockland in view of Murray, *Rice Bran May Lower Cholesterol* (Murray). These grounds are respectfully traversed below.

Amended claim 1 recites a reconstituted grain product manufactured by grinding a plurality of grains and/or legumes to a size of 80-200 meshes, and subjecting the ground material to mixing, hydration, extrusion, forming, and drying. Extrusion is performed at 50-150°C for 1-3 minutes. See page 5, lines 11-13 of the specification. In addition, the reconstituted grain product has 1-10% (w/w) rice bran in the size of 80-200 meshes. By contrast, rice bran is conventionally removed when rice is processed.

The following table compares properties of grain particles of less than 80 meshes and those of 80-200 meshes.

	Grain size < 80 meshes	Grain size of 80-200 meshes
Grinding of grain material	Easy	Difficult
Homogeneous mixing	Difficult	Easy
Feeding control of mixed material	Difficult	Easy
Extrusion	Cannot be completely cooked, contain granular structure	Completely cooked, homogeneously gelatinized
Forming	Easy	Easy
Appearance	Coarse (rice bran is peeled off)	Meticulous (surface is smooth)
Cooking in water	Reconstituted grain product is broken down and dissolved	Reconstituted grain product is complete
Mouth feel	Coarse	Meticulous, resilient

The claimed reconstituted grain product provides several advantages. First, it can be cooked in the same way as household rice without long-time soaking before cooking. Second, while containing two or more different grains or legumes, it can be cooked under one condition. (Of note, different conditions are required for cooking various grains and legumes.) In addition, it contains various nutrients enriched in grains and legumes. Moreover, the cooked reconstituted grain product has qualities similar to cooked rice. See page 5, line 21 to page 6, line 4 of the specification.

None of the cited references teaches or suggests the manufacturing method recited in claim 1. Applicants submit that claim 1 is non-obvious over these references. By the same token, claims 2-14, dependent from claim 1, are also non-obvious over the cited reference.

New claims

Among the new claims, only claim 16 is independent. It covers preparing a reconstituted grain product by grinding grain or legume to form a ground material of 80-200 meshes, and then subjecting the ground material to mixing, hydration, extrusion at 50-150°C for 1-3 minutes, forming, and drying.

Rockland teaches preparing a reconstituted grain product by cooking and mashing legume seeds, mixing mashed seeds with grain flour, adding water to the mixture to form a dough, and extruding the dough and cutting it into sheets. It is silent on the temperature and duration for extrusion. In other words, it does not teach or suggest extrusion at 50-150°C for 1-3 minutes, as required by claim 16.

None of Igloe, Oplinger, Duke, and Murray cure this deficiency. Igloe teaches that rice flour, barley, oat, *et al.* are beneficial to health. See pages 17, 99, and 120. Oplinger teaches buckwheat is beneficial to health. See table 1 on pages 1 and 2. Murray teaches that rice bran is beneficial to health. Page 1, lines 6-9. Duke teaches that adlay can be used as a substitute for rice. Page 3, lines 6-8. These references even do not mention extrusion, let alone the unique extrusion conditions required by claim 16, i.e., at 50-150°C for 1-3 minutes.

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In sum, Rockland, Igloe, Oplinger, Duke, and Murray, either alone or in any combination, do not teach or suggest extruding a ground material at 50-150°C for 1-3 minutes recited in claim 16. Thus, claim 16 is novel and non-obvious over these five references.

For the same reasons set forth above, claims 17-21, all dependent from claim 16, are also patentable over these five references.

Please apply any other charges or credits to deposit account 06-1050, referencing Attorney's Docket No. 08415-005001.

Respectfully submitted,

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Y. Rocky Tsao

Y. Rocky Tsao, Ph.D., J.D.
Attorney for Applicants
Reg. No. 34,053

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110
Telephone: (617) 542-5070
Facsimile: (617) 542-8906